

What is claimed:

1. A communication management system for operation with a packet switched local area network, the communication management system comprising:
 - 5 a PSTN interface for communicating over a telephone line with a service provider central office;
 - a network interface for communicating over the packet switched local area network with at least one real time communication device;
 - a PSTN gateway comprising:
 - 10 means for establishing a logical channel over the packet switched local area network with a real time communication device in response to receiving session signaling, that identifies a local area network address associated with the real time communication device, on a logical port associated with the telephone line;
 - 15 means for controlling the PSTN interface to transition the telephone line to an off hook state in response to receiving session signaling on a logical port associated with the telephone line;
 - translation means for:
 - 20 providing digital audio over the logical channel, the digital audio representing a dial tone received on the telephone line from the central office; and
 - providing one of a plurality of dual tone multi frequency signal on the telephone line in response to receipt of data from the real time communication device corresponding to the one of a plurality of dual tone multi frequency signals.
 - 25 2. The communication management system of claim 1, wherein the data from the real time communication device corresponding to the one of a plurality of dual tone multi frequency signals is compressed digital audio data provided on the logical channel and representing at least one of an analog or digital audio representation of the tone generated at the real time communication device.

3. The communication management system of claim 1, wherein the data from the real time communication device corresponding to the one of a plurality of dual tone multi frequency signals is a message identifying the tone.
- 5 4. The communication management system of claim 1, further comprising:
 - means for receiving a session signaling message from the real time communication device that includes an identifier associated with the telephone line;
 - means for determining a logical port associated with the telephone line;
 - means for adding the logical port to the a destination address of the session signaling message to generate a translated session signaling message; and
 - means providing the session signaling message to the PSTN gateway on the logical port.
- 15 5. The communication management system of claim 4, wherein the data from the real time communication device corresponding to the one of a plurality of dual tone multi frequency signals is compressed digital audio data provided on the logical channel and representing at least one of an analog or digital audio representation of the tone generated at the real time communication device.
- 20 6. The communication management system of claim 4, wherein the data from the real time communication device corresponding to the one of a plurality of dual tone multi frequency signals is a message identifying the tone.
- 25 7. A communication management system for operation with a packet switched local area network, the communication management system comprising:
 - a PSTN interface for communicating over at least two telephone lines with a service provider central office;
 - a network interface for communicating over the packet switched local area network with at least one real time communication device;
- 30 a PSTN gateway comprising:
 - means for establishing a logical channel over the packet switched

local area network with a real time communication device in response to receiving session signaling, that identifies a local area network address associated with the real time communication device, on one of a plurality of logical ports, each of which is associated with a unique one of the at least two telephone lines;

5 means for controlling the PSTN interface to transition the telephone line that is associated with the logical port on which session signaling was received to an off hook state;

translation means for:

providing digital audio over the logical channel, the digital audio
10 representing a dial tone received from the central office on the telephone line associated with the logical port on which session signaling was received; and
providing one of a plurality of dual tone multi frequency signal on the telephone line associated with the logical port on which session signaling was received in response to receipt of data from the real time communication
15 device corresponding to the one of a plurality of dual tone multi frequency signals.

8. The communication management system of claim 7, wherein the data from the real time communication device corresponding to the one of a plurality of dual tone multi frequency signals is compressed digital audio data provided on the
20 logical channel and representing at least one of an analog or digital audio representation of the tone generated at the real time communication device.

9. The communication management system of claim 7, wherein the data from the real time communication device corresponding to the one of a plurality of dual
25 tone multi frequency signals is a message identifying the tone.

10 The communication management system of claim 7, further comprising:
means for receiving a session signaling message from the real time communication device that includes an identifier that identifies a unique one of the
30 at least two telephone lines;
means for determining a logical port associated with the unique one of the at

least two telephone lines;

means for adding the logical port to the a destination address of the session signaling message to generate a translated session signaling message; and

5 means providing the session signaling message to the PSTN gateway on the logical port.

11. The communication management system of claim 10, wherein the data from the real time communication device corresponding to the one of a plurality of dual tone multi frequency signals is compressed digital audio data provided on the 10 logical channel and representing at least one of an analog or digital audio representation of the tone generated at the real time communication device.

12. The communication management system of claim 10, wherein the data from the real time communication device corresponding to the one of a plurality of dual tone multi frequency signals is a message identifying the tone. 15

13. A method of providing a communication interface between a telephone line coupled between a control unit an a public switched telephone network (PSTN) service provider central office and a logical channel between the control unit and a 20 real time communication device over a packet switched local area network, the method comprising;

receiving session signaling, that identifies a local area network address associated with the initiating real time communication device, over the local area network on a logical port associated with the telephone line;

25 establishing a logical channel with the real time communication device over the local area network in response to receiving session signaling;

transitioning the telephone line to an off hook state;

providing digital audio over the logical channel, the digital audio representing a dial tone received on the telephone line from the central office; and

30 providing one of a plurality of dual tone multi frequency signals on the telephone line in response to receipt of data from the real time communication

device corresponding to the one of a plurality of dual tone multi frequency signals.

14. The method of claim 13, wherein the step of providing one of a plurality of dual tone multi frequency signals on the telephone line comprises:

5 providing one of a plurality of dual tone multi frequency signals on the telephone line by decompressing compressed digital audio data provided on the logical channel and representing generation of the dual tone multi frequency signal at the real time communication device.

10 15. The method of claim 13, wherein the step of providing one of a plurality of dual tone multi frequency signals on the telephone line comprises:

providing one of a plurality of dual tone multi frequency signals on the telephone line in response to receipt of a message from the real time communication device identifying the tone.

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16. The method of claim 13, further comprising:

receiving a session signaling message from the real time communication device that includes an identifier associated with the telephone line;

determining a logical port associated with the telephone line;

20 adding the logical port to the a destination address of the session signaling message to generate a translated session signaling message; and

providing the session signaling message to the PSTN gateway on the logical port.

25 17. The method of claim 16, wherein the step of providing one of a plurality of dual tone multi frequency signals on the telephone line comprises:

providing one of a plurality of dual tone multi frequency signals on the telephone line by decompressing compressed digital audio data provided on the logical channel and representing generation of the dual tone multi frequency signal at the real time communication device.

18. The method of claim 17, wherein the step of providing one of a plurality of dual tone multi frequency signals on the telephone line comprises:

providing one of a plurality of dual tone multi frequency signals on the telephone line in response to receipt of a message from the real time communication device identifying the tone.

19. A method of providing a communication interface between at least two telephone lines coupled between a control unit and a public switched telephone network (PSTN) service provider central office and a logical channel between the control unit and a real time communication device over a packet switched local area network, the method comprising;

receiving session signaling, that identifies a local area network address associated with the real time communication device, over the local area network on one of a plurality of logical ports, each of which is associated with a unique one of the at least two telephone lines;

establishing a logical channel over the packet switched local area network with a real time communication device in response to receiving session signaling;

transitioning the telephone line that is associated with the logical port on which session signaling was received to an off hook state;

providing digital audio over the logical channel, the digital audio representing a dial tone received from the central office on the telephone line associated with the logical port on which session signaling was received; and

providing one of a plurality of dual tone multi frequency signals on the telephone line associated with the logical port on which session signaling was received in response to receipt of data from the real time communication device corresponding to the one of a plurality of dual tone multi frequency signals.

20. The method of claim 19, wherein the step of providing one of a plurality of dual tone multi frequency signals on the telephone line comprises:

providing one of a plurality of dual tone multi frequency signals on the telephone line by decompressing compressed digital audio data provided on the

logical channel and representing generation of the dual tone multi frequency signal at the real time communication device.

21. The method of claim 19, wherein the step of providing one of a plurality of 5 dual tone multi frequency signals on the telephone line comprises:

providing one of a plurality of dual tone multi frequency signals on the telephone line in response to receipt of a message from the real time communication device identifying the tone.

10 22. The method of claim 19, further comprising:

receiving a session signaling message from the real time communication device that includes an identifier that identifies a unique one of the at least two telephone lines;

15 determining a logical port associated with the unique one of the at least two telephone lines;

adding the logical port to the a destination address of the session signaling message to generate a translated session signaling message; and

providing the session signaling message on the logical port.

20 23. The method of claim 22, wherein the step of providing one of a plurality of dual tone multi frequency signals on the telephone line comprises:

providing one of a plurality of dual tone multi frequency signals on the telephone line b y decompressing compressed digital audio data provided on the logical channel and representing generation of the dual tone multi frequency signal 25 at the real time communication device.

24. The method of claim 22, wherein the step of providing one of a plurality of dual tone multi frequency signals on the telephone line comprises:

30 providing one of a plurality of dual tone multi frequency signals on the telephone line in response to receipt of a message from the real time communication device identifying the tone.

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